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China Lake Participates in FBE Hotel, JEFX 2000

PEC BECOMES *USS CHINA LAKE* FOR EXERCISE

USS China Lake—*In the IBAR's Precision Engagement Center, Capt. Steve Black, FBE-Hotel director (standing, right) and the FBE-Hotel team watch as events unfold on the Island of Pacifica.*

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A small group of Navy and Air Force personnel in the Precision Engagement Center are facing the console of a Land Attack Warfare System (LAWS). Glowing in the center of the screen is a single threat icon — an SA-8 antiair-missile battery.

An operator touches a keyboard, and additional information appears on the LAWS display, icons representing friendly aircraft and ships. Around each friendly icon are concentric rings of various sizes indicating the maximum range of the weapons on that platform.

One range ring is of particular interest to the analysts and intelligence experts gathered around the LAWS. Centered on an F/A-18, the ring represents the range of a SLAM-ER weapon carried by the aircraft. The ring overlaps the SA-8 icon. At a glance, it is apparent that the F/A-18 is in an excellent position to eliminate this very dangerous antiair threat.

Experimentation, not training

The scene was part of Fleet Battle Experiment Hotel (FBE-Hotel) phase two and Joint Expeditionary Force Experiment 2000 (JEFX-00), two coordinated military exercises in which NAVAIR participated.

FBE-Hotel, run by the Second Fleet, was a two-phase experiment conducted across the U.S. It was the eighth in a series of experiments designed to examine innovative warfighting concepts and emerging technologies.

JEFX-00 was a $60-million Air Force-led experiment that combined live platforms with computer simulations in a realistic warfighting environment to evaluate new operational concepts and technologies.

Both experiments were conducted in conjunction with United States Joint Forces Command's Millennium Challenge Experiment, the Army's Joint Contingency Force Advanced Warfighting Experiment and the Marine Corp's Millennium Dragon Experiment, making them the first all-service integrated experiments.

The Precision Engagement Center (PEC), locate in NAWCWD's Integrated Battlespace Arena (IBAR), functioned as a ship's strike operation center. It was one link in an information network that extended to the east coast and encompassed the entire sensor-to-shooter scenario of the 21st century battlespace.

Navy reservists from the Third Fleet worked the PEC systems, simulating a ship's strike operations center in a network centric warfare environment. Technical support was provided by the PEC's Steve Green, Tom O'Neill and Linda Homer.

The operational picture

During JEFX-00, the PEC was informally dubbed USS China Lake. This reflected IBAR's mission in the exercise, which was to simulate a Carrier Battle Group located off the West Coast. The Battle Group, complete with carrier, destroyers and escorts, was keeping a watchful eye on growing tensions on the Island of Pacifica.

This fictional island covered most of the Western United States. It comprised the Peoples Republic of Califon, the Republic of Nevidah (a U.S. ally), and the Confederation of Washorgon States. The three nations were disputing mineral holdings on the island.

As the situation on the island escalated into open warfare, the PEC was tasked to assist the Air Force's Air Operations Centers (AOC), which had command-and-control responsibility for joint air operations. Surveillance and reconnaissance systems were continually collecting intelligence on enemy forces and potential targets and transmitting that data to the AOC at Hurlburt Field, Fla.

At the AOC, the intelligence was integrated with information about friendly forces to compile an overall view of unfolding events. This view, called the common operational picture, was relayed to the PEC and displayed on the Global Command and Control System monitor.

"The most important thing is to get that common operational picture," said Ken Koch, of the Weapons Engagement Office, who coordinated the West Coast portion of NAVAIR's involvement. "You need to be able to see the good guys, the bad guys, everyone. And 'common' means all the good guys should be seeing the same thing."

When a candidate target was identified, the AOC would request the PEC to determine which Navy weapon/platform combinations were within striking distance and what targeting data should be sent to potential shooters. The PEC would transmit this information to the Forward Air Operations Center at Nellis AFB, where Air Force command-and-control staff would make the decision on how best to prosecute the target.

Test operators *at different consoles in the PEC play out their roles in FBE Hotel.*

East Coast support

NAVAIR also had NAWCWD personnel on the East Coast supporting FBE-Hotel phase one. This team was led by Ken Heeke (Avionics Department) and included Chris Ruffin (Weapons and Targets Department), Jon Rogerson (NAWCWD contractor), and Pete Gagliardo (from NAWCWD's support team at the Naval Strike and Air Warfare Center). The team operated the NAWCWD-developed Rapid Precision Targeting System (RPTS) for FBE-Hotel.

USS Truman, Mount Whitney and San Jacinto each carried an Intelligence Joint Targeting Workstation (JTW) used to gather tactical imagery and developed precision target coordinates.

This information was sent to the Operations JTW at Cherry Point, N.C., where the NAWCWD personnel built targeting packages and transmitted them to Navy strike aircraft through the aircraft's on-board communication links.

The functions of the East Coast NAVAIR contingent were very similar to those of the team led by Rick Haydu (Weapons and Targets Department) supporting RPTS efforts at Nellis AFB.

Learning lessons

EFX-00 and FBE-Hotel were designed to find both strengths and weaknesses in developmental systems and in nascent tactics and operational procedures. The difficulties of working with unproven systems and developmental technologies were compounded by the challenges of effective interservice coordination and integration — the cornerstone of joint operations.

"When you start up an experiment of this magnitude, you can't just turn the key and expect it to work," said Col. Chuck Wilson, Air Force Command and Control Training and Innovation Group commander. "JEFX 00 brings together more than 5,000 people at more than 17 different locations from all the services working on computer systems that haven't been tried before or haven't been asked to work together in the past." However, it is precisely this combination of multiservice players and new systems that gives these experiments value. The lessons learned in FBE-Hotel and JEFX-00 will have a strong positive influence on the course of the DoD's developmental systems and technologies.

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